

In another embodiment of the present invention it is disclosed that labeled material intended for use in an array does not have to be used as a probe but can instead be used as a source of template material for carrying out further amplification procedures. Thus for instance, if the methods of the present invention have been used to generate a labeled library by a promoter in the second strand synthesis to produce sense RNA, the same primer that was used for the original first strand synthesis could be used with the labeled material to synthesize 1st strand cDNA and carry out a further cycle of amplification. On the other hand if a promoter was used in the 1st strand, thereby generating labeled antisense RNA, the same primer that was used for the second strand synthesis could be used to initiate cDNA synthesis from the labeled template. When a transcription is carried out in this new cycle, inclusion of labeled nucleotides could generate a sufficient amount of labeled probe to carry out the intended experiment with a microarray without having to go back to the original source.

Among synthesizing reagents are those comprising E. coli DNA Pol I, Klenow fragment of E. coli DNA Pol I, Bst DNA polymerase, Bca DNA polymerase, Taq DNA polymerase, Tth DNA polymerase, T4 DNA polymerase, T7 DNA polymerase, SEQUENASE® (T7 DNA polymerase with virtually no 3'→5' exonuclease activity), Φ 29 DNA polymerase, ALV reverse transcriptase, MuLV reverse transcriptase, RSV reverse transcriptase, HIV-1 reverse transcriptase, HIV-2 reverse transcriptase, SENSIScript® (reverse transcriptase with amounts of RNA < 50 ng), OMNIScript® (reverse transcriptase with amounts of RNA > 50 ng), any mutational variations of any of the preceding, or any combination of the preceding.

Terminator nucleotides comprise dideoxyribonucleotides, acyclic nucleotides, arabinosides or 3' amino nucleotides.

Labeled nucleotides comprise a fluorescent compound, a phosphorescent compound, a chemiluminescent compound, a chelating compound, an electron dense compound, a magnetic compound, an intercalating compound, an energy transfer compound, an antibody, an antigen, a hapten, a receptor, a hormone, a ligand, an enzyme, or any combination of the preceding.

Solid matrix comprises magnetic beads, latex beads, microtitre plates or glass slides.